

AMENDMENT TO THE CLAIMS

Claims 1-21 (canceled)

22. (withdrawn) A method for making a programmable resistance memory element, comprising:

providing a conductive layer;

forming a raised portion on an edge of said conductive layer; and

depositing a programmable resistance memory material adjacent said raised portion.

23. (withdrawn) The method of claim 22, wherein said forming said raised portion comprises:

etching a portion of said conductive layer to form said raised portion.

24. (withdrawn) A method for making a programmable resistance memory element, comprising:

providing a conductive sidewall layer;

forming a raised portion on an upper edge of said conductive layer; and

depositing a programmable resistance memory material adjacent said raised portion.

25. (withdrawn) The method of claim 24, wherein said forming said raised portion comprises:

- forming a spacer above said conductive layer;
- using the spacer as a mask, etching said conductive layer to form said raised portion below said spacer.

26. (withdrawn) The method of claim 25, wherein said forming said spacer comprises:

- depositing a first layer above said conductive layer;
- depositing a second layer onto said first layer;
- etching said second layer to form a sidewall surface;
- depositing a third layer onto said sidewall surface;

27. (withdrawn) The method of claim 26, further comprising:
after depositing said third layer,

- anisotropically etching said third layer;
- removing said second layer;
- anisotropically etching said first layer.

28. (withdrawn) The method of claim 26, wherein said first and said third layers comprise an oxide.

29. (withdrawn) The method of claim 26, wherein said second layer comprises polysilicon.

30. (withdrawn) The method of claim 26, wherein said first and third layers comprise a nitride.

31. (withdrawn) The method of claim 26, wherein said second layer comprises an oxide.

Claims 32-44 (canceled)

45. (new) A memory element, comprising:

- a substrate;

- a cup-shaped electrical contact electrically coupled to said substrate, said cup-shaped contact having an open end facing away from said substrate, said contact including one or more protrusions extending upward from the rim of said cup-shaped contact;

- a dielectric material formed over the interior surface of said cup-shaped contact; and

- a programmable resistance material electrically coupled to at least one of said protrusions.

46. (new) The memory element of claim 45, wherein said electrical contact comprises at least one material selected from the group consisting of titanium nitride, titanium aluminum nitride, titanium carbonitride, titanium silicon nitride, carbon, N- doped polysilicon, titanium tungsten, tungsten silicide, tungsten, molybdenum, N+ doped polysilicon.

47. (new) The memory element of claim 45, wherein said programmable resistance material includes a phase change material.

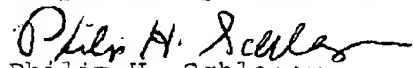
48. (new) The memory element of claim 45, wherein said programmable resistance material includes a chalcogen element.

49. (new) The memory element of claim 45, wherein substantially all electrical communication between said programmable resistance material and said electrical contact occurs through at least one of said protrusions.

SUMMARY

In view of the response to Notice of Non-Compliant Amendment, applicant respectfully requests reconsideration, withdrawal of the outstanding objections and rejections, and notifications of allowance. Should the Examiner have any questions or suggestions regarding the prosecution of this application, he is asked to contact applicant's representative at the telephone number listed below.

Respectfully submitted,


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